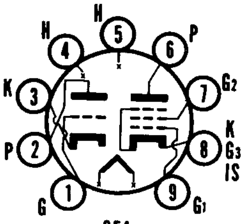



# SYLVANIA TYPE 12EC8




9FA

## MECHANICAL DATA

| | |
|---|---|
| Bulb | T-6½ |
| Base | E9-1, Miniature Button 9-Pin |
| Outline | 6-2 |
| Basing | 9FA |
| Cathode | Coated Unipotential |
| Mounting Position | Any |

## ELECTRICAL DATA

### HEATER CHARACTERISTICS

| | |
|---|---|
| Heater Voltage[1] | 12.6 Volts |
| Heater Current | 225 Ma |
| Heater-Cathode Voltage (Design Maximum System) | |
| Heater Negative with Respect to Cathode | 16 Volts Max. |
| Heater Positive with Respect to Cathode | 16 Volts Max. |

### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

**Triode Section**

| | |
|---|---|
| Grid to Plate | 1.7 μμf |
| Input: g to (h+k) | 2.6 μμf |
| Output: p to (h+k) | 0.4 μμf |
| Heater to Cathode | 2.6 μμf |

**Pentode Section**

| | |
|---|---|
| Grid No. 1 to Plate | 0.02 μμf Max. |
| Input: g1 to (h+k+g2+g3+I.S.) | 4.6 μμf |
| Output: p to (h+k+g2+g3+I.S.) | 2.6 μμf |
| Heater to Cathode | 2.6 μμf |

### MAXIMUM RATINGS (Design-Maximum System)[2]

| | Triode Section | Pentode Section |
|---|---|---|
| Plate Voltage | 16 | 16 Volts |
| Grid No. 2 Voltage | .. | 16 Volts |
| Grid No. 1 Circuit Resistance | 1.0 | 1.0 Megohm |

### CHARACTERISTICS AND TYPICAL OPERATION

| | Triode Section | Pentode Section |
|---|---|---|
| Plate Voltage | 12.6 | 12.6 Volts |
| Grid No. 2 Voltage | .... | 12.6 Volts |
| Grid No. 1 Voltage | 0 | 0 Volts |
| Grid No. 1 Resistor | 4700 | 33,000 Ohms |
| Plate Current | 2.4 | 0.66 Ma |
| Grid No. 2 Current | .... | 0.28 Ma |
| Transconductance | 4700 | 2000 μmhos |
| Amplification Factor | 25 | .... |
| Plate Resistance (approx.) | 6000 | 750,000 Ohms |
| Ec1 for Ib = 10 μa (approx.) | −2.2 | −1.6 Volts |

### NOTES:

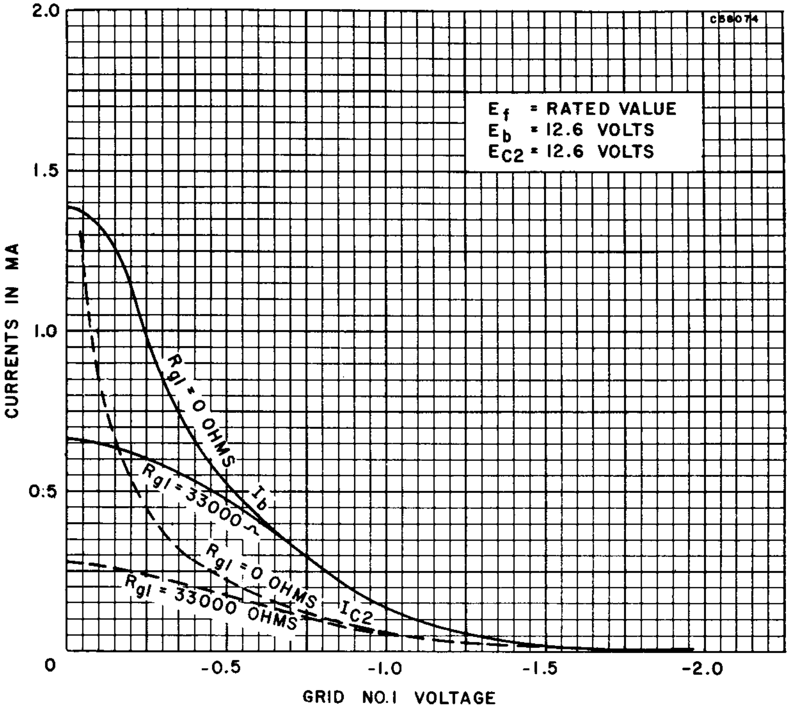
1. This tube is intended for use in automobile radios operated from a nominal 12 volt battery. Design of the tube is such that the heater will operate satisfactorily over the range 10.0 volts to 15.9 volts, and that the maximum ratings provide a safety factor for the wide voltage variation encountered in this type of supply.
2. Design-Maximum Ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.
   The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics.
   The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

## APPLICATION

The Sylvania Type 12EC8 has a medium mu triode and sharp cutoff pentode contained in one envelope. It is intended for use as a combined VHF oscillator and mixer. It is designed for operation where the heater, Grid No. 2 and plate potentials are supplied directly from a 12 volt automotive battery.

# SYLVANIA TYPE 12EC8 (Cont'd)

## AVERAGE TRANSFER CHARACTERISTICS
**(Pentode Section)**




## AVERAGE TRANSFER CHARACTERISTICS
**(Triode Section)**

